BY ORDER OF THE COMMANDER,
PACIFIC AIR FORCES

PACAF INSTRUCTION 21-104

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Maintenance

PROCEDURES CONCERNING CONSOLIDATED JET ENGINE INTERMEDIATE REPAIR

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction is implemented by AFPD 21-1, Managing Aerospace Equipment Maintenance. This instruction prescribes procedures for consolidated jet engine repair (Queen Bee) for F110, TF34, and T56 engines in PACAF. This publication does not apply to Air Force Reserve or Air Force National Guard units and members and is not applicable to the T56 Queen Bee facility at Yokota AB, Japan when providing support to Air Force Special Operations Command (AFSOC) assets.

SUMMARY OF REVISIONS

This revision incorporates procedures formerly published in PACAFI 21-104. This revision aligns the instruction with PACAFI 21-101 Maintenance Management of Aircraft. A bar (|) indicates revision from the previous edition.

Section A—Maintenance Responsibilities

1. Queen Bee Facilities:

1.1. Complete all scheduled intermediate level maintenance and any unscheduled maintenance beyond the capability of the operating wings. Additionally, repairs any engines mutually agreed upon.

1.2. Complete all intermediate-level time compliance technical orders (TCTO).

1.3. Prepare jet engines for shipment in accordance with (IAW) applicable technical orders (T.O.).

1.4. Ensure all inspection items (e.g. 400 hour exhaust nozzle inspection, 100 HPO, etc.) are completed, allowing a full inspection interval until next due date.

1.5. Ensure all F110 production engines meet the minimum build policy of 500 Total Accumulative Cycles (TAC) remaining, except in special circumstances after coordination with HQ PACAF/LGMFE and the operating wing.

1.6. Meet all applicable requirements of PACAFI 21-101.

1.7. Ensure all TF34 and T56 production engines meet minimum build policy of 150 Hours remaining except in special circumstances after coordination with HQ PACAF/LGMFE and the operating wing, to include repair of the Quick Engine Change (QEC) kit.

1.8. Provide locally developed feedback forms with every engine shipment.

2. Operating Wings:

2.1. For the F110 engine: Retain 100 percent capability for repair/replacement of all external components; line replaceable units (LRU); exhaust nozzle/augmentors; turbine frames; front frames; fan and compressor components (top half) on "quick turn" engines. HQ PACAF/LGM approval will be required on a case by case basis to repair any engine beyond the repairs listed in this paragraph.

2.2. For the TF34 engine: Retain 100 percent responsibility for all organization level maintenance.

2.3. Retained tasks for the T56-7/15 engines.

2.3.1. Remove and replace the Reduction Gearbox (RGB) module.

2.3.2. Remove, replace, and repair the turbine module.

2.3.3. Remove and replace torque meter.

2.3.4. Remove and replace accessory drive assembly.

2.3.5. The preferred method for these repairs is to remove the engine from the aircraft, install the engine on a transportation stand, and perform the required maintenance in a controlled environment. HQ PACAF/LGM approval will be required on a case by case basis to repair any engine beyond the retained tasks listed in paragraph **2.3.1.** thru **2.3.4.**

2.4. In addition to all tasks above, operating wings will:

2.4.1. Replace all LRU time change items.

2.4.2. Complete all Organizational/Intermediate level TCTO within local maintenance capability (e.g. TCTO coded completed at "O and/or I-level")

2.4.3. Prepare jet engines for shipment IAW applicable T.O.

2.4.4. Meet all applicable requirements of PACAFI 21-101.

2.4.5. Return completed feedback forms to the Queen Bee.

Section B—Engine Management Responsibilities

3. Engine Management Element (Queen Bee):

3.1. Maintain engine records IAW T.O. 00-20-5.

3.2. In coordination with Propulsion Flight, order interval time change items three months or between 300 and 500 TAC prior to scheduled engine shipment to the Queen Bee facility.

3.3. Order I-level TCTO kits upon release of the applicable TCTO.

3.4. Provide by suitable means (e-mail, etc.) a weekly report to HQ PACAF/LGMFE, and the operating wings' engine management sections an engine production status. Status will include: In transit spares, on station spares, deployed spares, obligations, engines in work, engines awaiting parts, engines awaiting maintenance, and repairable engines in transit. (RCS: PAF-LGM(W)-8106)

3.4.1. Provide daily engine status when operating wings' target serviceable requirements (TSR) are below standards, and/or during contingencies.

3.5. Up-date and return to the operating wing all engine monitoring system (EMS), comprehensive engine trending and diagnostic system (CETADS), and turbine engine monitoring system (TEMS) data.

3.6. Meet all applicable requirements of PACAFI 21-101.

3.7. Provide engine serial number and transportation control numbers (TCN) to HQ PACAF/AOS for all shipments. Identify all engine shipments with Special Project Code 449, nickname Coral Shannon.

4. Engine Management Element (Operating Wing):

4.1. Maintain engine records IAW T.O. 00-20-5.

4.2. Provide the Queen Bee all available EMS/CETADS/TEMS data, weekly time remaining forecast and six month forecast.

4.3. Order all O/I-level TCTO kits (within their maintenance capability) upon release of the applicable TCTO.

4.4. Provide all requested data for use in reports/charts.

4.5. Meet all applicable requirements of PACAFI 21-101.

4.6. Provide engine serial number and transportation control numbers (TCN) to HQ PACAF/AOS for all shipments. Identify all engine shipment with Special Project Code 449, nickname Coral Shannon.

Section C—Funds Management

5. Operating Wings:

5.1. The operating wings will budget for the entire cost of engine repairs and will forward the funds to the Queen Bee units. If there are funding shortfalls, the wing owning the aircraft engine being repaired will submit an unfunded requirement to their FMA office or decide what does not get funded.

5.2. To ensure the Queen Bee operates efficiently and effectively by avoiding peak and valley scheduling and funding. Operating wings will provide funds (via AF Form 616) to the Queen Bee no later than the first day of each month for all new scheduled requirements for the next three months (e.g., on 1 November funds required to support maintenance scheduled to take place during February will be transferred). This will allow time change items to be ordered in an expeditious fashion and avoid interrupting workflow due to lack of time change parts. Funds for unscheduled engine maintenance will be transferred when engines are shipped to Queen Bee for maintenance.

6. Queen Bee Facilities:

6.1. The Queen Bee units will set up a separate Project Fund Management Record (PFMR) for Depot Level Reparable (DLRs) Element of Expense Investment Code (EEIC 644), flying hour consumables (EEICs 605/609), and non-fly Aviation Petroleum Oil and Lubricants (AVPOL) (EEIC 693) for Hush House/Test Cell runs.

6.2. Monthly, the queen bee will provide a document to the operating wings listing, by engine serial number, items for which their funds were expended. Additionally, an itemized list of parts used will be provided for each engine produced by the Queen Bee.

Section D—Support Equipment

7. General:

7.1. The applicable weapon system allowance standards will be used as the source for support equipment authorizations by both the operating wings and the Queen Bee.

7.2. Every effort will be made to return the transportation trailers to the base of origin. All trailers must be serviceable prior to engine shipment.

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